

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

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## Unit 1 Test – Form B

**Variables and Translations.** Write an algebraic expression for each phrase. (2 pts.)

a. the sum of 10 and five times a number \_\_\_\_\_

b. 9 less than the quotient of 6 and a number \_\_\_\_\_

**Define variables and write an equation to model the following situation.** (4 pts.)

a. The number of tickets available is 4200 minus the number of tickets sold.

b. The total cost of gas is the number of gallons times \$2.25

**rGEMDAS.** Simplify the following expressions. (8 pts.)

$$6(5 - 2) - 9$$

$$9 - (3 + 1)^2$$

$$10 \div 5 \cdot 2 + 6$$

$$5 + 4 \cdot (8 - 6)^2$$

**Evaluate Expressions.** Evaluate each expression. Use  $a = 3$   $b = -2$   $c = 1$  (8 pts.)

$$2a^2 - (2b + 3c)$$

$$5(a + 2b) + 2b$$

$$4c^2 - a^2$$

$$\frac{2b + c}{2}$$

**Operations with Integers.** Simplify. (3 pts.)

$$|-8| = \underline{\hspace{2cm}}$$

$$7 + |3 - 10| = \underline{\hspace{2cm}}$$

$$-2|2 - 8| + 11 = \underline{\hspace{2cm}}$$

**Distributive Property.** Simplify. (6 pts.)

$$-5(-2x + 7)$$

$$10x + 5 = \underline{\hspace{2cm}}$$

$$12x - 4 = \underline{\hspace{2cm}}$$

$$-10 - (2x + 3) - x + 7$$

**Properties of Numbers.** Simplify the expression. (5 pts.) Justify each step. Evaluate the expression for  $t = -4$  for two bonus points. Write your answer here:\_\_\_

$2(3t + 1) + 5t$	Expression

What are the four properties that allow us to solve equations? (4 pts.)

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Unit 1 is done! What do you think of Algebra (not the class, the subject/topic)? What do you think algebraic thinking is? Your answer must be AT LEAST three sentences. (2 points)

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